

CLAIMS

What is claimed is:

1. A method for identifying a fluid ejection device comprising:
determining first identification information;
based upon the first identification information, querying one or more elements on the fluid ejection device that include second identification information;
determining the second identification information based upon the query; and
determining a plurality of operating parameters of the fluid ejection device based upon the first and second identification information.
2. The method of claim 1, wherein determining first identification information comprises querying a portion of the fluid ejection device that controls operation of one or more fluid ejection elements.
3. The method of claim 2, wherein the portion of the fluid ejection device that controls operation comprises a pull down resistor.
4. The method of claim 3, wherein the pull down resistor is coupled to a line that is coupled to the one or more fluid ejection elements.
5. The method of claim 3, wherein determining the first identification information comprises determining a resistance value at the pull down resistor.
6. The method of claim 3, wherein determining the first identification information comprises determining a voltage magnitude at the pull down resistor in response to a current provided to the pull down resistor.

7. The method of claim 2, wherein querying a portion of the fluid ejection device that controls operation of one or more fluid ejection elements comprises querying a first portion of the fluid ejection device that controls operation of a first group of elements and querying at least one other portion of the fluid ejection device that controls operation of a second group of elements.

8. The method of claim 2, wherein the first identification information is indicative of a protocol of the fluid ejection device and wherein querying one or more elements on the fluid ejection device that include second identification information comprises querying the identification elements based upon the protocol.

9. The method of claim 8, wherein the protocol is a double data rate protocol.

10. The method of claim 1, wherein the fluid ejection device is a print head and the first identification information comprises a data rate of operation of the print head.

11. A method of identification of a fluid ejection device, comprising:
providing at least a first signal on one or more lines, the one or more lines coupled to one or more fluid ejection elements that eject fluid;
determining, responsive to the at least first signal, first identification information;
providing at least a second signal to one or more elements on the fluid ejection device that are configured to provide second identification information;
determining the second identification information responsive to at least the second signal; and
determining a plurality of operating parameters of the fluid ejection device

based upon the first and second identification information.

12. The method of claim 11, wherein determining, responsive to the at least first signal, first identification information comprises determining a value at least one pull down resistor.

13. The method of claim 12, determining a value at least one pull down resistor comprises determining a magnitude of a resistance of the at least one pull down resistor in response to a current provided on the line coupled with the at least one pull down resistor.

14. The method of claim 13, wherein determining a value at least one pull down resistor comprises determining a voltage magnitude at the pull down resistor in response to a current provided to the at least one pull down resistor.

15. The method of claim 11, wherein the first identification information comprises a protocol of operation of the fluid ejection device and wherein providing at least a second signal to one or more elements on the fluid ejection device that are configured to provide second identification information comprises providing signals based upon the protocol.

16. The method of claim 11, wherein the fluid ejection device is a printhead and the first identification information comprises a protocol for ejecting ink from the print head.

17. A fluid ejection device, comprising:
a plurality of fluid ejection elements;
a plurality of identification elements;
a plurality of lines each coupled to a group of the plurality of fluid ejection

elements; and

a plurality of pull-down resistors coupled to some of the plurality of lines, at least some of the plurality of pull-down resistors encoding information regarding a protocol for operating the plurality of fluid ejection elements.

18. The fluid ejection device of claim 17, wherein the fluid ejection device is coupled with a controller capable of determining a magnitude at each of the pull-down resistors and determining the protocol based on the magnitude of at least some of the pull-down resistors.

19. The fluid ejection device of claim 18, wherein the controller is capable of determining a magnitude of a resistance of each of the pull-down resistors.

20. The fluid ejection device of claim 17, wherein each of the plurality of pull down resistors has at least a first magnitude and a second magnitude, and wherein the first magnitude is indicative of the at least one operating parameter of the fluid ejection device.

21. The fluid ejection device of claim 17, wherein the plurality of lines comprise select lines.

22. The fluid ejection device of claim 17, wherein the plurality of lines comprise address lines.

23. The fluid ejection device of claim 17, wherein the plurality of lines comprise fire lines.

24. The fluid ejection device of claim 17, wherein the plurality of lines comprise data lines.

25. The fluid ejection device of claim 17, wherein the fluid ejection device is a printhead.

26. The fluid ejection device of claim 17, wherein the information regarding the protocol further comprises information that is indicative of parameters for providing signals to the identification elements.

27. A fluid ejection device comprising:
a plurality of fluid ejection elements;
a plurality of identification elements;
a plurality of lines each coupled to a group of the plurality of fluid ejection elements; and
means for encoding information regarding a protocol of operating the fluid ejection elements, the means for encoding coupled to at least some of the plurality of lines.

28. The fluid ejection device of claim 27, wherein the means for encoding information changes from a first state to a second state based upon signals received from a controller.

29. The fluid ejection device of claim 27, wherein the plurality of lines comprise select lines.

30. The fluid ejection device of claim 27, wherein the plurality of lines comprise address lines.

31. The fluid ejection device of claim 27, wherein the plurality of lines

comprise fire lines.

32. The fluid ejection device of claim 27, wherein the plurality of lines comprise data lines.

33. The fluid ejection device of claim 27, wherein the information regarding the protocol further comprises information for providing signals to the identification elements.